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ABSTRACT

Three private preschool classes, one with 3-year-olds and two with 4-year-olds, were observed to determine if there was differential treatment of boys and girls. The observer used an observational form developed to observe and assess sex equity or inequity in teacher-child interactions. The data obtained from the observations was processed through the Statworks program. A t-test was run on the following teacher responses: teacher gives a soft reprimand, teacher gives praise, teacher gives directions, and teacher comments. The results revealed that for each type of the four teacher responses, no significant difference was found in the way the preschool teachers responded to girls or to boys. This was in contrast to other available research studies that found boys and girls were treated differently by their teacher in the classroom. In 8 out of the 10 studies, boys received more attention than girls, in some instances negative and in some instances positive. In the remaining two studies, girls received more attention in one study and more reinforcement in the other than boys received. The null hypothesis, that there is no difference in teacher-child interactions with boys and girls at the preschool level, was accepted based on the t-test results. Differences between this study and the older studies indicate, perhaps, a greater awareness of sex equity or inequity by educators. Appendices contain the Sex Equity/Inequity Observation form, the Sex Equity in the Preschool Classroom questionnaire, a transmittal letter, and tables pertaining to the study. Contains 12 references. (Author/TJQ)

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SEX EQUITY IN TEACHER-CHILD INTERACTION IN PRESCHOOL CLASSROOMS

by

Kathleen L. Simac

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ABSTRACT

Sex Equity in Teacher-Child Interaction

in Preschool Classrooms

by

Kathleen L. Simac

The purpose of this study was to determine if there is differential treatment of boys and girls in preschool classrooms. Three preschool classes, one classroom of three year olds and two classrooms of four year olds, were observed at a private preschool. Each class was observed four times for 30 minutes. A total of 34 children, 20 girls and 14 boys, were observed. All three preschool teachers were female.

An observational form was developed to observe and assess sex equity or inequity in teacher-child interactions in the preschool classrooms. The data obtained from the observations were processed through the Statworks program on a MacIntosh computer. A t test was run on the following teacher responses by gender (whether the teacher was responding to a boy or a girl): teacher gives a soft reprimand, teacher gives praise, teacher gives directions, and teacher gives comments. In all of the t test results the level of probability exceeded .05, thus the null hypothesis, which stated that there is no difference in teacher-child interactions with boys and girls at the preschool level, was accepted.

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CHAPTER 1

INTRODUCTION

General Introduction

In this day and age, the 1990's, where men and women are to be treated as equals, considerable attention has been paid to developing non-sexist curriculum in preschool classrooms. Many schools now encourage all children to participate in any or all activities, regardless of the sex of the of the child, and try to provide role models of attitudes that can broaden children's ideas of appropriate sex roles and potential career possibilities. (Hendrick & Strange, 1989, p. 5).

A more subtle area of concern is the manner in which teachers interact with their students and whether teachers interact equitably with male and female students. Of particular importance is teacher-student interaction at the preschool level, the child's first exposure to a school setting. The differential treatment of male and female students, according to Murphy (1986), is a major concern because first,

> ...the messages that teachers transmit to students through their interactions have an impact on the student's self-concept, behavior, learning and achievement and secondly, variations within the classroom setting have an important impact on the student's emotional and social adjustment as well as on their

academic progress. (p. 4).

Several studies have indicated that teachers interact differently with male and female students. In Murphy's study (1986), boys, in a day care setting, were criticized more often for misbehavior, and also received more remedial feedback. On the other hand, the boys received more praise and acceptance. The boys also received more interactions, in general, based on their representation in the classroom from their teachers (p. 14). In another study, by Serbin, O'Leary, Kent and Tonick (1973), preschool teachers were more likely to respond when the boys were aggressive than when the girls were. The teachers also used more directions and instructions when responding to solicitation by the boys. The boys were more likely to receive nurturing and instructional attention while participating appropriately in class activities, the girls were given increased attention when they were physically close (p. 796). In contrast, one preschool study, by Fagot (1973), found that the teacher's answered girls' questions more often, gave girls more favorable comments and directed their behavior more frequently (p. 206).

Statement of the Problem

Differential treatment of boys and girls, by their teachers in preschool classrooms, may transmit sexist messages.

Purpose

The purpose of this research project is to determine if there is differential teacher treatment of boys and girls in preschool classrooms.

Importance of the Study

The importance of this study is to provide information about sex equity in the preschool classroom. This information can be used to help teachers acknowledge any differences in their interactions with both male and female children. This information can also be used in training or retraining of preschool teachers.

Definition of Term

1. Sex equity- freedom from bias or favoritism.

Null Hypothesis

There is no difference in teacher-child interactions with boys and girls at the preschool level.

Limitations and Delimitations

The study is limited to three and four year old preschool students at Cypress Creek Christian preschool in North Harris County, Texas. The study is delimited to three and four year old preschool students during the fall semester, 1993.

Assumption

1. The observer will not have an adverse effect on the behavior to be observed.

CHAPTER 2

REVIEW OF THE RELATED LITERATURE

In a related study, Murphy (1986) investigated the differential treatment of boys and girls interacting with teachers in day care settings. Her hypothesis was that many teachers operate with preconceptions about the skills, behavior and performance of boys and girls based on their gender. (p. 9).

Murphy's study sample consisted of 28 teachers, 14 male and 14 female, and their 268 students, half male and half female, in licensed, urban day care centers. The initial sample included a pool of day care center classrooms whose directors volunteered to participate in the study. From that pool 14 classrooms, with at least one male teacher, and 14 classrooms with a female teacher, were selected. The children ranged in age from two to four years old. Each teacher was observed twice over a period of three weeks, for approximately 45 minutes. Trained observers used the Interactions for Sex Equity in Classroom Teaching (INTERSECT) Observation Form, a form designed for observing and assessing sex equity or inequity in teacher-student interactions, to record the types of interaction of male and female teachers with boys and girls. The independent variables were the sex of the teacher and the sex of the child.

The dependent variables were "... (1) teacher responses to intellectual content (praise comments, acceptance comments, remediation comments and criticism comments) and (2) teacher responses to conduct content (praise comments, acceptance comments, remediation comments and criticism comments)". (p. 6) Murphy also investigated the following dependent variables: ancillary teacher behaviors, tone-setting incidents and entry, exit and transition behavior. (p. 7).

Murphy found that male and female teachers responded differently to the replies, paperwork and behavior of boys and girls. In the observations it was found that:

1. The boys received more praise and acceptance for the intellectual nature of their replies than the girls from both male and female teachers.

2. The boys received more discipline, disapproval and criticism than the girls from both male and female teachers.

3. The boys were given more reprimands than the girls for the same or similar misbehavior from both male and female teachers.

4. The girls were spoken to in a soft tone and the boys were spoken to in a harsh tone by female teachers only.

5. The boys were given more instruction and direction in order to complete a task, while the girls

were given assistance, where the teacher actually completed the tasks for them, from both male and female teachers.

6. The girls were assigned to carry light objects, while the boys were assigned to carry heavy objects. (p. 8-9).

Murphy concluded that "(1) teachers in day care classrooms interact with boys and girls differently and (2) the differential treatment of boys and girls exists in the type, amount and distribution of interaction between teachers and children in day care classrooms". (p. 3). Murphy states that "during interactions with the teacher, the children received the messages that boys are independent, girls are dependent, girls play nicely, boys play rough and girls are feminine and boys are masculine". (p. 9-10).

In recommendations for further research Murphy suggests that future replication studies should examine the effects of sex equity training on the teacher-student interactions in the day care classroom. Teachers would attend a sex equity workshop and would practice implementing the skills and be able to demonstrate the ability to distribute equitable interactions. A control group, teachers without training, and an experimental group, teachers with training, skills and ability, would be used. (p. 17-18).

Serbin, O'Leary, Kent & Tonick (1973) examined teacher response to two classes of behavior, disruption and dependency. Their hypothesis was that teachers respond differently to disruption and dependency, as a function of the sex of the child involved. The second purpose of their study was to describe and compare the distribution of various forms of positive and instructional attention to boys and girls participating appropriately in on going classroom activities. (p. 797).

Fifteen preschool classes were observed at four schools, including three private nursery schools and one private day care center, all 15 preschool teachers were white females. Each class contained anywhere from 12 to 17 children with approximately equal numbers of boys and girls in each class. The children were from three to five years old. Children at the nursery schools were from predominantly white, middle-class families. Children at the day care center were from predominantly white, lower middle class and working class families. Observers were trained and recorded the following disruptive behavior: (a) Ignoring teachers directions, (b) destruction of materials, and (c) aggression towards others (physical and/or verbal). The following dependent behaviors were also recorded: (a) Crying, (b) proximity to the teacher (within arm's reach), and (c) solicitation

of teacher attention. Also the number of children of each sex participating in the ongoing class activity was recorded. The following categories of teacher responses were also recorded: (a) Praise, (b) loud reprimand, (c) soft reprimand, (d) yelling, (e) extended direction, (f) brief direction, (g) long conversation, (h) short conversation, (i) touching the child, (j) hugging the child, (k) restraint, (l) helping, and (m) removing the child from the group. Each classroom was observed for approximately 36 minutes over a three week period with a mean of 4.2 hours per classroom. (p. 798).

The results of this study, according to Serbin et al., confirmed their hypothesis that:

> ... differential contingencies for disruptive and dependent behavior are in effect for boys and girls in the preschool classroom. Teachers were more likely to react to aggressive behavior by boys and were more likely to use loud reprimands in responding to boys than to girls. (p. 802).

Serbin et al. also found that the teachers' reaction to solicitation by boys included more directions and instructions. Teacher responses to solicitation by girls contained fewer directions and instructions but more praise, physical contact and helping. In addition, they found that boys received more attention than girls when participating appropriately in classroom activities

outside of the immediate vicinity of the teacher, but girls received more attention when they were proximal to the teacher.

In this study low base rates of several of the behaviors, such as disruptive behaviors and proximity and crying, made it difficult for the researchers to analyze the teachers responses to them. Serbin et al. also notes that "... the presence of male teachers might have resulted in more proximity by boys or differences in the interaction patterns observed". (p. 803).

Martin (1972) investigated the effects of student sex and behavior on the frequency and type of student-teacher interaction. The study was effected by matching boys and girls with regard to the extent to which they were behavior problems. (p. 340).

Five second-grade classrooms were used with eight boys and eight girls selected from each, totalling 80 students. The children came from predominantly middle and lower-middle-class families. Each of the five teachers were asked to rank his/her students with regard to the extent to which they were behavior problems in the classroom. Four boys and four girls from the top (nonbehavior problem children) and four of each from the bottom (behavior problem children) were chosen for observation. (p. 340).

Each student was observed three to five different

times, over a period of approximately six weeks, for a total of four hours. The observers consisted of Martin and an assistant, who was blind to the hypothesis of the study. Five general kinds of interaction were recorded: response opportunities, recitation opportunities, procedural contacts, work contacts and behavioral contacts. (p. 341).

The results of this study indicated that boys who were designated by their teacher as behavior problems were engaged in more dyadic interactions with their teachers than boys who were not behavior problems. In addition, they had more contacts with the teacher than girls, regardless of whether the girls exhibited problem behavior in the classroom. (p. 345). Martin recommends that further research be done on why girls receive less attention than both boys who were behavior problems, and boys who were not behavior problems.

Huffine, Silvern, and Brooks' (1979) proposed to determine if teachers of kindergarten children differentially responded to disruptive and questioning behaviors of boys and girls. Ten different kindergarten classes were observed at 10 different public elementary schools. Each class was observed three times, for one hour. All the teachers were white females. The classes contained between 12 to 25 students with a nearly equal number of boys and girls. Ninety-five percent of the

children were Caucasian and 80 percent were from middle class homes. During the observational period two major classes of responses were recorded: disciplinary responses and length of response to a pupil-initiated question. The same person conducted all of the observations. Teacher disciplinary responses were divided into three components: verbal, non-verbal and physical. The length of teacher responses to student questions were also recorded as follows: no response, short response and long response. Both the type and length of teacher responses were also recorded according to the sex of the student. (p. 31).

The results of this study demonstrated that teachers clearly show consistent differences in the length of time spent responding to male and female student questions. Females received lengthy or more elaborate responses, males received brief responses. Boys were disciplined more than twice as much for talking in the classroom than they were for exhibiting aggressive behaviors. Girls received more discipline for aggressive behaviors than for talking. The type of disciplinary response also differed according to the sex of the student. Males received a physical form of punishment 3.5 times more than girls did.

Huffine et al. concluded that:

... certain behaviors, stereotypic of respective

> sexes, may be partially influenced through teacher differential responses to these behaviors. Specifically, boys are taught independence and aggressiveness. They experience much more physical contact, are permitted to exhibit much more physical aggression in class than girls, but are actively discouraged from talking during class. Girls are taught dependence and are not often subjected to physical forms of punishment. They are allowed much more freedom in talking during class but are actively and consistently punished for aggressiveness. (p. 34-35).

For future research Huffine et al. recommended longitudinal studies to determine the effects of "... selected teacher behaviors in salient classroom contexts so that restraints may be implemented when the learning of appropriate sex role behaviors actually restricts the interpersonal and intellectual development of students". (p. 35).

In a series of three studies Fagot (1973) presents observational studies of teacher behavior and children's classroom behavior. In the first study two middle-class nursery schools were used with 18 children in one school and 17 in the other, approximately half the children were boys and half were girls. Twenty-eight child behaviors were studied. Also included were 10 possible

consequences of the child's behavior, four of which involved the following teacher behaviors: (a) teacher initiates activity, (b) teacher joins activity, (c) teacher comments favorably on child's activity, and (d) teacher criticizes activity. There were two teachers per school, all of the teachers were female. In this first study "only in the case of teacher initiating behavior was there a significant sex difference with the teacher initiating activities for the girls more than for the boys". (p. 200).

In the second study a preschool with three classes of four year-olds was used. The children were from predominantly white upper-middle-class homes with 18 children in each class, approximately half boys and half girls. All of the teachers were white females. Observations, by trained observers, were made of the child's task behavior. The child was rated as task involved or not. Also the observation schedule of the teacher's behavior was expanded, from the first study, to include 14 behaviors. The results of the second study found that non-task behavior of the boys and girls within each class was virtually identical. In regard to teacher behavior the teachers responded significantly more to the girls' questions and also commented more favorably to girls than to boys.

The next year the second study was replicated using

the same teachers but different students.

> Although there were no sex differences in task behavior in the three studies, there were consistent differences in the teacher's behavior toward the two sexes. Teachers appeared to instruct girls more than boys in all three studies. They answered girls questions more often, gave girls more favorable comments and directed their behavior more frequently. (p. 206).

In yet another study by Fagot, along with Patterson (1969), they tested the following three hypotheses: (a) sex differences in play behavior are present in three year olds, (b) female teachers reinforce feminine behaviors, (c) peers reinforce like-sex peers.

In this study boys and girls, age three, were observed in two nursery schools. There were 18 children in each school, with equal division of boys and girls. The children were from white upper-middle-class homes. Trained observers used a 28 item behavior checklist that also included 10 possible consequences. Of the 10 consequences, four were responses made by the teachers and were as follows: (a) teacher indicates new behavior, (b) teacher comments favorably, (c) teacher joins in activity, and (d) teacher criticizes. (p. 564-565).

Since all four teachers were women it was predicted that they would reinforce "feminine" behaviors more

heavily than "male" behaviors and that they would reinforce boys, but not girls for cross-sex behaviors. (p. 566). According to their data the hypothesis that the two sexes have distinct behaviors at the age of three was supported and these sex-typed behaviors were stable over the year. There was also confirmation of the hypothesis that female teachers reinforce those behaviors performed by the child that are in their own behavior repertoires. The teachers reinforced the boys 232 times on sex-preferred behaviors, 199 times were for feminine behaviors. The teachers reinforced the girls 363 times on sex-preferred behaviors, 353 were for feminine behaviors. Their third hypothesis was also supported in that peers reinforce same-sex behaviors. Fagot and Patterson found it interesting that the teacher reinforcement of feminine behaviors did not affect the boys preference for masculine behaviors. (p. 567). In future research Fagot and Patterson hope to see the effects of male preschool teachers.

Cherry (1975) tested the following three hypotheses:

1. Teachers would verbally interact and initiate more verbal interaction with boys than with girls.
2. Teachers speech to boys would contain greater use of attention-getting devices of speech, directives and repetitions than speech to girls, since boys are reported to be more disruptive and non-complaint in

> the preschool classroom. Teachers would give more verbal acknowledgment to boys than to girls. 3. Teacher-girl verbal interaction would be more fluent (e.g. longer and more reciprocal) than teacher boy interaction. Since girls are reported to be more verbally fluent than boys. Teachers would verbally initiate interactions at a higher rate with girls than with boys. (p. 532).

Cherry's sample consisted of two preschool classrooms with a combined total of 38 students, 16 girls and 22 boys, ranging in age from two to four. Each class had two teachers. Cherry had each teacher carry a tape recorder and record spontaneously occurring conversations, for five days during two situations, for a total of 16 hours of recording. Recordings were then transcribed and coded by two research assistants who were blind to the hypothesis of the study. (p. 532-33).

The results of Cherry's study agreed with her hypothesis. Boys indeed had more verbal interaction with their teachers and the teachers' speech to the boys was more directing. But Cherry found that girls received significantly more verbal acknowledgments of their answers to the teachers' questions than the boys did. Since the results of this study can only be generalized to middle-class preschoolers with female teachers future studies may consider male teachers or studies where the

socioeconomic status of the child is varied. (p. 535).

Hendrick and Strange (1989) studied aspects of dominant and submissive sex role behaviors in preschool children and their teachers. Three experiments were set up. In experiment one Hendrick and Strange determined whether the number of times children interrupted their teacher and the teacher interrupted the children differed according to the sex of the child. In experiments two and three they investigated whether girls or boys were assigned more frequently to the privileges of passing and replenishing the snack.

In the first experiment the sample consisted of nine girls and nine boys, all four years old, from middle class homes. The children attend a university laboratory school. They were randomly assigned to a snack table with two girls and two boys. They were observed on four separate occasions. Checklists were made of the number of child/teacher and teacher/child interruptions. In the second and third experiments, while using the same sample population, tallies of the number of times girls and boys passed or replenished the snacks were kept. (p. 9).

Results of the study found that during conversations the boys interrupted teachers more frequently than the girls did. The teachers interrupted the girls more frequently than the boys, but there was no significant difference in the frequency of participation by boys and

girls in passing or replenishing the snacks. Hendrick and Strange suggest, for future research, that the effect of male teachers' be studied. They also suggest researching other language-related ways teachers foster dominant and submissive language behavior in girls and boys. In addition they question whether there would be a difference in this study if teachers were aware of their behavior that supports these subtle patterns of dominance and submission.

Meyer and Thompson (1956) attempted to shed light on the way teachers' respond toward pupils in their classroom. Their hypothesis was that boys, who are more aggressive and nonconforming than girls, would receive more disapproval contacts from their teachers than girls. On the other hand girls, who are more quiescent and conforming than boys would receive more approval from their teacher than boys. They further hypothesized that boys and girls are aware of the differences in their teachers attitudes towards them. (p. 394).

Meyer and Thompson tested their hypotheses by observing three sixth grade teachers, for 30 hours per classroom. All teacher initiated contacts of a disapproval or approval nature were recorded. Meyer and Thompson measured the childrens' perceptions of teacher attitude by a variation of the "Guess Who?" technique in which the students were asked to name four students who

best fitted a series of statements of a teacher approval and of a disapproval nature and an analysis was made. (p. 394).

The results of their study found that in all three schools boys received more disapproval from their teachers than girls did. Boys and girls also nominated more boys for disapproval than girls. With respect to the hypothesis that girls receive more approval contacts their data did not yield any significant differences and in fact the trend was in a direction opposite to that predicted thus, indicating that the teachers in their sample had fewer contacts with the girls in their classrooms. (p. 394)

In a two part study, Dweck, Davidson, Nelson and Ena (1978) tested the hypothesis that:

> ... frequent widespread use of negative evaluation for boys negates failure feedback from adults as an indicant of their ability. It makes it more likely that they will view negative feedback as either irrelevant to their performance or due to a lack of motivation. In this way, they would learn to attribute academic failure to effort or to the evaluators attitudes or criteria. (p. 269).

It was also hypothesized that "... the more sparing and discriminating use of negatives for girls make negative evaluation particularly informative about the level of

ability displayed." (p. 269). The purpose of study number one was to observe teachers' feedback to boys and girls in the classroom. Dweck et al. used 52 fourth grade and 27 fifth grade children who attended a predominantly white, lower-middle-class public school. Their teachers were all women. Trained observers coded every instance of evaluative feedback from the teachers to the students, according to the sex of the child. The observers were blind to the hypothesis.

The purpose of study number two:

> ... was to determine whether the patterns of feedback observed in the classroom serve as causes of sex differences in the interpretation of failure feedback. The different contingencies of work-related criticism observed for boys and girls in the first study were programed in an experimental situation. The impact of these contingencies on childrens' attributions for failure feedback from the evaluating agent was then assessed on a subsequent task. (p. 270).

Dweck et al. used 60 fifth grade children, half boys and half girls from three elementary schools. Ten boys and ten girls were randomly assigned to each of the experimental conditions.

The results of study one:

> ... revealed that both the contingencies of feedback in classrooms and the attributions made by teachers were ones that would render negative evaluation more indicative of ability for girls than boys. For example, negative evaluation of girls performance referred almost exclusively to intellectual inadequacies, whereas 45% of boys' work-related criticism related to nonintellectual aspects. Moreover, teachers' attributed the boys' failure to lack of motivation significantly more than they did the girls' failure. (p. 268).

In study two "both boys and girls receiving the teacher-girl contingency were more likely to view subsequent failure feedback from the evaluator as indicative of their ability". (p. 268).

In summary, all of the related literature that was examined, with the exception of the Cherry (1975) study, which was based on tape recordings, were based on observations. In all ten of the studies it was found that boys and girls were treated differently by their teacher in the classroom. In eight of the studies boys received more attention, in some instances negative attention and in some instances positive attention. The two exceptions were the Fagot (1973) study , in which the teachers were found to give the girls more attention, and the Fagot and Patterson (1969) study, which did not

examine the amount of attention boys or girls received, instead the study focused on what type of behavior, "masculine" or "feminine" the teachers reinforced. In the Fagot and Patterson study, though, girls were reinforced more than boys.

CHAPTER 3

METHODS AND PROCEDURES

This study utilized structured observations to collect the data. Three preschool classes were observed at a private preschool. Permission to do the observations was obtained from Carol Wolda and Karen Wilkerson, co-directors of the Cypress Creek Christian preschool. The children, observed in this study, attended the preschool three days per week. Each class was observed four times for 30 minutes each. The three preschool teachers were white females with college degrees who had at least six or more years teaching experience.

A total of 34 children were observed in the three classes. The first class consisted of 12 three year olds, with an equal number of boys and girls. The second class consisted of 12 four year olds, with eight girls and four boys. The third class consisted of 10 four year olds, with six girls and four boys. The classes were observed on a rotating basis between 9:30 a.m. and 12:00 p.m., during which time the children were either involved in activity, snack, or story time or a combination of two of the categories. All of the children observed were Caucasian and from middle to upper middle class homes.

An observational form (see Appendix A) was developed

to observe and assess sex equity or inequity in teacher-child interactions in the preschool classroom, based upon observational forms used in similar studies. The following teacher responses, as well as who the teacher was responding to, a boy or a girl, were recorded: teacher gives a loud or physical reprimand, teacher gives a soft reprimand, teacher ignores behavior, teacher gives praise, teacher gives criticism, teacher gives direction, and teacher comments. It was also noted during the observational period whether the child was close, proximal, to the teacher or far, at least the width of a body away. The same person conducted all of the observations so rater reliability was not an issue and it was felt that any rater bias would remain constant over the observations.

The data obtained from the observations was processed through the Statworks program on a MacIntosh computer. A t test was run on the following teacher responses: teacher gives a soft reprimand, teacher gives praise, teacher gives directions, and teacher comments. The following three responses were omitted from the data entered in the Statworks program because there were no observations of these responses: teacher gives a loud or physical reprimand, teacher ignores behavior and teacher gives criticism. A .05 level of significance was chosen as the level of probability to reject the null

hypothesis.

A questionnaire (see Appendix B) was developed utilizing several questions from both Non-Sexist Education for Young Children: A Practical Guide by Sprung and Sexism in School and Society by Frazier & Sadker. The questionnaire was distributed to the three preschool teachers that were observed. The questionnaire consisted of 25 closed questions. The questions consisted of multiple choice answers, ranging from two to four answers. The teachers were asked to choose only one choice per question. A letter of transmittal accompanied each questionnaire (see Appendix C). All of the questionnaires were returned and the answers were recorded on Scantron Form 882-ES. The data from the returned questionnaires were processed through the IBM Scantron 1100 Data Entry Terminal where frequency and percentage data were obtained.

CHAPTER 4

PRESENTATION AND ANALYSIS OF DATA

The t test results for the four teacher responses, as obtained by the Statworks program on a MacIntosh computer are as follows:

1. In comparing the teacher gives a soft reprimand response 10 observations were recorded for boys and 16 observations were recorded for girls. The mean was 2.40 for the boys and 2.50 for the girls. The standard deviation was 1.26 for the boys and 1.79 for the girls. The degrees of freedom were 24 with a t-statistic of -0.15 and a significance of 0.879 (see Table 1).

2. In comparing the teacher gives praise response 14 observations were recorded for boys and 15 observations were recorded for girls. The mean was 3.79 for boys and 4.27 for girls. The standard deviation was 2.89 for the boys and 3.69 for the girls. The degrees of freedom were 27 with a t-statistic of -0.39 and a significance of 0.701 (see Table 2).

3. In comparing the teacher gives directions response 20 observations were recorded for both boys and girls. The mean was 6.15 for the boys and 7.40 for the girls. The standard deviation was 5.37 for the boys and 5.12 for the girls. The degrees of freedom were 38 with a t-statistic of -0.75 and a significance of 0.456 (see

Table 3).

4. In comparing the teacher comments response 21 observations were recorded for the boys and 22 were recorded for the girls. The mean was 9.90 for the boys and 13.18 for the girls. The standard deviation was 8.13 for the boys and 7.47 for the girls. The degrees of freedom were 41 with a t-statistic of -1.38 and a significance of 0.176 (see Table 4).

The results of the t tests allowed the null hypothesis to be accepted because all of the t test results had levels of significance higher than .05, the chosen level of probability (see Table 5). Further breakdown of the data, whether the boy or girl was proximal or far from the teacher, was not necessary, at this point, because according to the t tests no significant differences were found.

The following are the results of the frequency and percentage data from the questionnaire (see Table 6):

1. One respondent (33 percent) was between the ages of 26-35 and two respondents (67 percent) were 36 or older.

2. Three respondents (100 percent) were female.

3. One respondent (33 percent) had 16 years of schooling and two respondents (67 percent) have more than 16 years schooling.

4. Three respondents (100 percent) have taught six

or more years.

5. Three respondents (100 percent) have children of their own.

6. Three respondents (100 percent) have girls.

7. Three respondents (100 percent) marked that there is no difference in their classroom as far as who is more likely to be a discipline problem, a boy or a girl.

8. Three respondents (100 percent) marked that there is no difference between who does better, boys or girls, in understanding the material or lessons.

9. Two respondents (67 percent) marked that girls are more likely to be submissive, and one respondent (33 percent) marked that there is no difference between boys and girls.

10. Two respondents (67 percent) marked that there is no difference between boys and girls as far as whose behavior is more controllable during lessons. One respondent (33 percent) was undecided.

11. Two respondents (67 percent) marked that there is no difference between who, boys or girls, they give more of their classroom attention to. One respondent (33 percent) was undecided.

12. Two respondents (67 percent) marked that they plan more quiet than noisy activities, and one respondent (33 percent) marked that there is no difference.

13. One respondent (33 percent) marked that they plan more messy activities, one respondent (33 percent) marked that they plan more neat activities, and one respondent (33 percent) marked that there is no difference in planning messy or neat activities.

14. Two respondents (100 percent) marked that they do not disapprove of noisy children. One respondent did not respond.

15. One respondent (33 percent) marked that boys are more noisy than girls, two respondents (67 percent) marked that there is no difference.

16. One respondent (33 percent) marked that they are more likely to ask a boy to help move a heavy item, two respondents (67 percent) marked that there is no difference in who they would be more likely to ask.

17. Three respondents (100 percent) marked that they stop one sex from making demeaning comments about the other.

18. One respondent (33 percent) marked that they use sex as a basis for grouping students for classroom activities, and two respondents (67 percent) marked that they use it sometimes.

19. Three respondents (100 percent) marked that all occupations are open to both boys and girls.

20. Two respondents (100 percent) marked undecided as far as who is their best student, one respondent did

not answer.

21. Two respondents (100 percent) marked undecided as far as who is their smartest student, one respondent did not answer.

22. One respondent (100 percent) marked undecided as far as who they feel more comfortable helping with a personal problem, two respondents did not answer.

23. One respondent (50 percent) marked that they would rather talk to the mother when they have a problem with a child, one respondent (50 percent) marked either mother or father, and one respondent did not answer.

24. Two respondents (67 percent) marked that they look over materials and lessons to see if female and/or male characters are represented in a non-stereotyped manner, one respondent (33 percent) marked sometimes.

25. Three respondents (100 percent) marked that their school does not discuss or offer additional training on the effects of sex bias on students.

No further tests were run on the data from the questionnaire because of the small (three) sample size.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Three preschool classes were observed at a private preschool. The observer used an observational form developed to observe and assess sex equity or inequity in teacher-child interactions. The data obtained from the observations was processed through the Statworks program on a MacIntosh computer. A t test was run on the following teacher responses: teacher gives a soft reprimand, teacher gives praise, teacher gives directions, and teacher comments.

In each of the four teacher responses no significant difference was found in the way the preschool teachers responded to girls or to boys. This was in contrast to the other available research studies which found that boys and girls were treated differently by their teacher in the classroom. In eight out of the ten studies boys received more attention, in some instances negative and in some instances positive. In the remaining two studies, girls received more attention in one study and more reinforcement, than boys, in the other.

Conclusions

The null hypothesis, that there is no difference in teacher-child interactions with boys and girls at the

preschool level, was accepted based on the t test results, which all have levels of significance greater than .05. However, since the teacher comments comparison had a level of significance of .176, which is relatively close to .05, further consideration appears to be indicated.

Although the results of this study differ from the results of the previous studies reviewed, perhaps one of the reasons is that only two of the studies, Hendrick and Strange (1989) and Murphy (1986), were conducted in the 1980's. All of the rest of the studies were conducted prior to 1980. This may be an indication that educators are more aware of sex equity/inequity.

Recommendations

Future replication studies could include observations of more than just one preschool. In this way a more diverse socioeconomic group of teachers and students would be represented. Different grade levels (i.e. elementary, middle and high school) could also be examined to see if sex equity/inequity exists. Also, male preschool teachers could be observed to see if there are differences in teacher-child interactions. Future studies could also examine the effects of sex equity training on teacher-child interactions in the preschool classroom. A control group and experimental group could be organized. Teachers in the experimental group could

attend a sex equity workshop. Observations could then be made of both the experimental and the control group. The data could then be examined to measure the effects of sex equity training.

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Appendix A

Sex Equity/Inequity Observation Form

TEACHER GIVES LOUD OR PHYSICAL REPRIMAND	
TEACHER GIVES SOFT REPRIMAND	
TEACHER IGNORES BEHAVIOR	
TEACHER GIVES PRAISE	
TEACHER GIVES CRITICISM	
TEACHER GIVES DIRECTION	
TEACHER GIVES COMMENTS	

BC = Boy Close BF = Boy Far

GC = Girl Close GF = Girl Far

Appendix B

SEX EQUITY IN THE PRESCHOOL CLASSROOM

DIRECTIONS: Please circle or answer all items. You may add comments if you wish.

1. What is your age?	25 & Under	26 – 35	36 & Older	
2. What is your sex?	Male	Female		
3. Highest degree ?	12	12+	16	16+
4. Number of years you have been teaching?	0 – 3 years	4 – 6	6+	
5. Do you have any children?	Yes	No		
6. Are your children boy(s) or girl(s)? (Circle both if applicable)	Boy(s)	Girl(s)	N/A	
7. In your classroom are boys or girls more likely to be a discipline problem?	Boys	Girls	No difference	Undecided
8. Do boys or girls do better in understanding the material or lessons?	Boys	Girls	No difference	Undecided
9. Are boys or girls more submissive?	Boys	Girls	No difference	Undecided
10. Whose behavior is more controlable during lessons?	Boys	Girls	No difference	Undecided
11. Who do you give more of your classroom attention to?	Boys	Girls	No difference	Undecided
12. Do you plan more noisy or quiet activities?	Noisy	Quiet	No difference	Undecided
13. Do you plan more messy or neat activities?	Messy	Neat	No difference	Undecided
14. Do you disapprove of noisy children?	Yes	No	Undecided	
15. Are boys or girls more noisy?	Boys	Girls	No difference	Undecided
16. When you ask a student to help move a heavy item, who are you more likely to ask?	Boys	Girls	No difference	Undecided
17. Do you stop one sex from making demeaning comments about the other such as, "I don't want to read any dumb girl's book."?	Yes	No	Sometimes	
18. Do you use sex as a basis for grouping students for classroom activities?	Yes	No	Sometimes	
19. Do you think all occupations are open to both boys and girls?	Yes	No	Sometimes	
20. Who is your best student?	Boy	Girl	Undecided	
21. Who is your smartest student?	Boy	Girl	Undecided	
22. Who do you feel more comfortable helping with a personal problem?	Boy	Girl	Undecided	
23. When you have a problem with a child who would you rather talk to?	Mom	Dad	Either	Both
24. Do you look over material & lessons to see if female and/or male characters are represented in a non-stereotyped manner?	Yes	No	Sometimes	
25. Does your school ever discuss or offer additional training on the effects of sex bias on students?	Yes	No		

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Appendix C

October 1993

Dear Preschool Teachers:

I am the mother of two children enrolled in the preschool program at Cypress Creek Christian Preschool. I am also currently undertaking a research project as partial fullfillment for my Masters degree in Counseling at Sam Houston State University. I have enlisted and received permission from Cypress Creek Christian Preschool to distribute this questionnaire.

Please take a few minutes to complete this questionnaire. Circle only **one answer** per question and answer **each** question. You may add comments, on the back, if you feel a question is vague or if you want to add your opinion. Do **not** put your name on the questionnaire. All answers will be treated as grouped data and any identifying information will be kept confidential.

Please return the questionnaire to me as soon as possible. A copy of this study will be shared with Cypress Creek Christian Preschool.

Thank you for your time and cooperation.

Katie Simac

Appendix D

Table 1

Boy vs. Girl Soft Reprimand t Test

Data File: SEX EQUITY PRESCHOOL CLASS

Independent Samples...

Variable:	BOY SOFT	GIRL SOFT
Mean:	2.40	2.50
Std. Deviation:	1.26	1.79
Observations:	10	16

t-statistic:	-0.15	Hypothesis:
Degrees of Freedom:	24	Ho: $\mu 1 = \mu 2$
Significance:	0.879	Ha: $\mu 1 \neq \mu 2$

Table 2

Boy vs. Girl Praise t Test

Data File: SEX EQUITY PRESCHOOL CLASS

Independent Samples...

Variable:	BOY PRAISE	GIRL PRAISE
Mean:	3.79	4.27
Std. Deviation:	2.89	3.69
Observations:	14	15

t-statistic:	-0.39	Hypothesis:
Degrees of Freedom:	27	Ho: $\mu 1 = \mu 2$
Significance:	0.701	Ha: $\mu 1 \neq \mu 2$

Table 3

Boy vs. Girl Directions t Test

Data File: SEX EQUITY PRESCHOOL CLASS

Independent Samples...

Variable:	BOY DIRECT	GIRL DIRECT
Mean:	6.15	7.40
Std. Deviation:	5.37	5.12
Observations:	20	20

t-statistic:	-0.75	Hypothesis:
Degrees of Freedom:	38	Ho: $\mu 1 = \mu 2$
Significance:	0.456	Ha: $\mu 1 \neq \mu 2$

Table 4

Boy vs. Girl Comment t Test

Data File: SEX EQUITY PRESCHOOL CLASS

Independent Samples...

Variable:	BOY COMMENT	GIRL COMENT
Mean:	9.90	13.18
Std. Deviation:	8.13	7.47
Observations:	21	22

t-statistic:	-1.38	Hypothesis:
Degrees of Freedom:	41	Ho: $\mu 1 = \mu 2$
Significance:	0.176	Ha: $\mu 1 \neq \mu 2$

Table 5

Summary of t Test Results

Comparison	t-Statistic	Level of Significance	Null Hypothesis
Boy vs. Girl Soft Reprimand	-0.15	0.879	Accepted
Boy vs. Girl Praise	-0.39	0.701	Accepted
Boy vs. Girl Directions	-0.75	0.456	Accepted
Boy vs. Girl Comment	-1.38	0.176	Accepted

Table 6

Frequency and Percentage Data

Sam Houston State University
SEX EQUITY IN PRESCHOOL

Total Responding: 3 NR= No Response Date: 01/03/8(

Question		1 A	2 B	3 C	4 D	5 E	NR	Total	Average
1.	Number:	0	1	2	0	0	0	3	2.7
	Percent:	0%	33%	67%	0%	0%			
2.	Number:	0	3	0	0	0	0	3	2.0
	Percent:	0%	100%	0%	0%	0%			
3.	Number:	0	0	1	2	0	0	3	3.7
	Percent:	0%	0%	33%	67%	0%			
4.	Number:	0	0	3	0	0	0	3	3.0
	Percent:	0%	0%	100%	0%	0%			
5.	Number:	3	0	0	0	0	0	3	1.0
	Percent:	100%	0%	0%	0%	0%			
6.	Number:	0	3	0	0	0	0	3	2.0
	Percent:	0%	100%	0%	0%	0%			
7.	Number:	0	0	3	0	0	0	3	3.0
	Percent:	0%	0%	100%	0%	0%			
8.	Number:	0	0	3	0	0	0	3	3.0
	Percent:	0%	0%	100%	0%	0%			
9.	Number:	0	0	2	1	0	0	3	3.3
	Percent:	0%	0%	67%	33%	0%			
10.	Number:	0	0	2	1	0	0	3	3.3
	Percent:	0%	0%	67%	33%	0%			
11.	Number:	0	0	2	1	0	0	3	3.3
	Percent:	0%	0%	67%	33%	0%			
12.	Number:	0	2	1	0	0	0	3	2.3
	Percent:	0%	67%	33%	0%	0%			
13.	Number:	1	1	1	0	0	0	3	2.0
	Percent:	33%	33%	33%	0%	0%			
14.	Number:	0	2	0	0	0	1	2	2.0
	Percent:	0%	100%	0%	0%	0%			
15.	Number:	1	0	2	0	0	0	3	2.3
	Percent:	33%	0%	67%	0%	0%			
16.	Number:	1	0	2	0	0	0	3	2.3
	Percent:	33%	0%	67%	0%	0%			
17.	Number:	3	0	0	0	0	0	3	1.0
	Percent:	100%	0%	0%	0%	0%			
18.	Number:	0	1	2	0	0	0	3	2.7
	Percent:	0%	33%	67%	0%	0%			
19.	Number:	3	0	0	0	0	0	3	1.0
	Percent:	100%	0%	0%	0%	0%			
20.	Number:	0	0	2	0	0	1	2	3.0
	Percent:	0%	0%	100%	0%	0%			
21.	Number:	0	0	2	0	0	1	2	3.0
	Percent:	0%	0%	100%	0%	0%			
22.	Number:	0	0	1	0	0	2	1	3.0
	Percent:	0%	0%	100%	0%	0%			
23.	Number:	1	0	1	0	0	1	2	2.0
	Percent:	50%	0%	50%	0%	0%			
24.	Number:	2	0	1	0	0	0	3	1.7
	Percent:	67%	0%	33%	0%	0%			
25.	Number:	0	2	0	0	0	0	3	2.0
	Percent:	0%	100%	0%	0%	0%			

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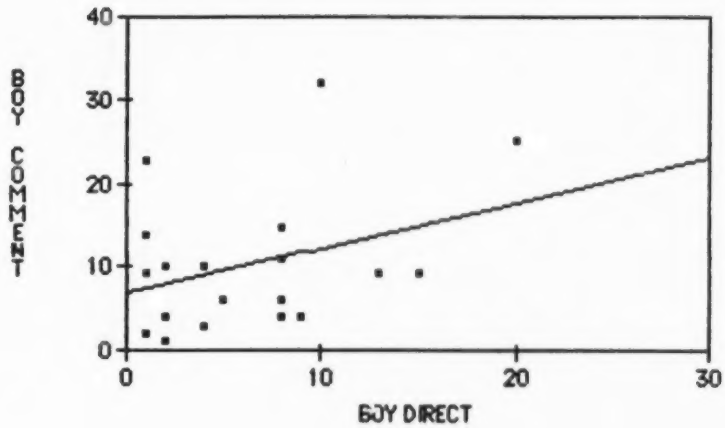
SEX EQUITY PRESCHOOL CLASS

	BOY SOFT	GIRL SOFT	BOY PRAISE	GIRL PRAISE	BOY DIRECT	GIRL DIRECT	BOY COMMENT	GIRL COMENT
1	4	7	9	7	20	11	25	22
2	3	2	3	3	8	10	6	17
3	1	2	3	1	8	2	4	13
4	2	4	4	2	13	11	9	3
5	1	1	7	1	2	4	1	11
6	2	2	2	5	5	3	6	18
7	2	1	1	3	10	14	32	20
8	5	2	2	11	1	16	14	30
9	2	1	3	3	8	4	11	5
10	2	3	4	1	9	7	4	5
11		1	3	11	2	2	4	8
12		6	1	3	4	4	3	12
13		2	10	2	1	15	9	15
14		1	1	10	8	2	15	15
15		3		1	1	7	2	19
16		2			4	9	10	14
17					1	17	9	2
18					15	3	9	12
19					1	5	23	19
20					2	2	10	22
21							2	6
22								2
23								
24								
25								
26								

Data File: SEX EQUITY PRESCHOOL CLASS

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F-Ratio	Prob>F
Model	162.00	1	162.00	2.66	0.105
Error	1094.20	18	60.79		
Total	1256.20	19			

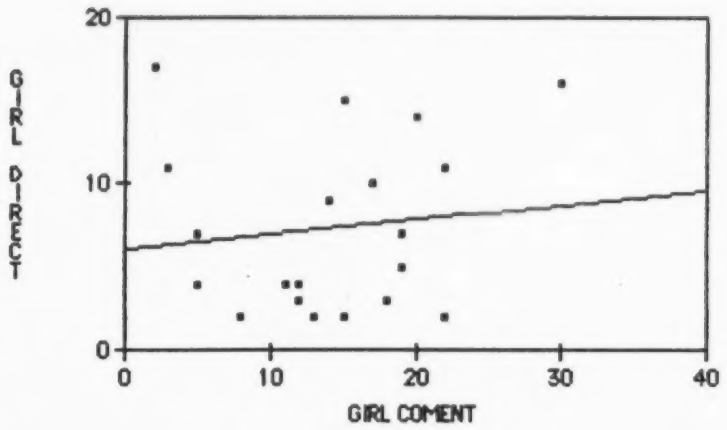
Coefficient of Determination (R^2)	0.13
Adjusted Coefficient (R^2)	0.08
Coefficient of Correlation (R)	0.36
Standard Error of Estimate	7.80
Durbin-Watson Statistic	1.83


40
30
20
10
0
BOY COMMENT
0
10
20
30
BOY DIRECT

Data File: SEX EQUITY PRESCHOOL CLASS

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F-Ratio	Prob>F
Model	7.25	1	7.25	0.27	0.613
Error	491.55	18	27.31		
Total	498.80	19			

Coefficient of Determination (R^2)	0.01
Adjusted Coefficient (R^2)	-0.04
Coefficient of Correlation (R)	0.12
Standard Error of Estimate	5.23
Durbin-Watson Statistic	2.28


20
10
0
GIRL DIRECT
0
10
20
30
40
GIRL COMENT

Data File: SEX EQUITY PRESCHOOL CLASS

Variable:	BOY SOFT	Observations:	10
Minimum:	1.00	Maximum:	5.00
Range:	4.00	Median:	2.00
Mean:	2.40	Standard Error:	0.40
Variance:		1.60	
Standard Deviation:		1.26	
Coefficient of Variation:		52.70	
Skewness:	0.79	Kurtosis:	-0.65

Data File: SEX EQUITY PRESCHOOL CLASS

Variable: GIRL SOFT Observations: 16

Minimum: 1.00	Maximum: 7.00
Range: 6.00	Median: 2.00
Mean: 2.50	Standard Error: 0.45
Variance:	3.20
Standard Deviation:	1.79
Coefficient of Variation:	71.55
Skewness: 1.31	Kurtosis: 0.61

Data File: SEX EQUITY PRESCHOOL CLASS

Variable: BOY PRAISE Observations: 14

Minimum: 1.00	Maximum: 10.00
Range: 9.00	Median: 3.00
Mean: 3.79	Standard Error: 0.77
Variance:	8.34
Standard Deviation:	2.89
Coefficient of Variation:	76.26
Skewness: 1.00	Kurtosis: -0.39

Data File: SEX EQUITY PRESCHOOL CLASS

Variable: GIRL PRAISE Observations: 15

Minimum:	1.00	Maximum:	11.00
Range:	10.00	Median:	3.00
Mean:	4.27	Standard Error:	0.95
Variance:		13.64	
Standard Deviation:		3.69	
Coefficient of Variation:		86.55	
Skewness:	0.86	Kurtosis:	-0.93

Data File: SEX EQUITY PRESCHOOL CLASS

Variable: BOY DIRECT Observations: 20

Minimum:	1.00	Maximum:	20.00
Range:	19.00	Median:	4.50
Mean:	6.15	Standard Error:	1.20
Variance:			28.87
Standard Deviation:			5.37
Coefficient of Variation:			87.37
Skewness:	0.92	Kurtosis:	-0.01

Data File: SEX EQUITY PRESCHOOL CLASS

Variable: GIRL DIRECT Observations: 20

Minimum: 2.00	Maximum: 17.00
Range: 15.00	Median: 6.00
Mean: 7.40	Standard Error: 1.15
Variance:	26.25
Standard Deviation:	5.12
Coefficient of Variation:	69.24
Skewness: 0.53	Kurtosis: -1.25

Data File: SEX EQUITY PRESCHOOL CLASS

Variable: BOY COMMENT Observations: 21

Minimum: 1.00	Maximum: 32.00
Range: 31.00	Median: 9.00
Mean: 9.90	Standard Error: 1.77
Variance:	66.09
Standard Deviation:	8.13
Coefficient of Variation:	82.08
Skewness: 1.23	Kurtosis: 0.72

Data File: SEX EQUITY PRESCHOOL CLASS

Variable: GIRL COMENT Observations: 22

Minimum:	2.00	Maximum:	30.00
Range:	28.00	Median:	13.50
Mean:	13.18	Standard Error:	1.59
Variance:		55.77	
Standard Deviation:		7.47	
Coefficient of Variation:		56.66	
Skewness:	0.17	Kurtosis:	-0.78